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10/737,184	12/16/2003	Ragip Kurceren	944-001.121	5545
4955 7590 05/02/2008 WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP BRADFORD GREEN, BUILDING 5 755 MAIN STREET, P O BOX 224 MONROE, CT 06468				
EXAMINER WERNER, DAVID N				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/737,184

Applicant(s)

KURCEREN ET AL.

Examiner

DAVID N. WERNER

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office action for US Patent Application 10/737,184 is in response to communications filed 04 February 2008, in reply to the Non-Final Rejection of 20 December 2007. Currently, claims 2-32 are pending.
2. In the previous Office action, claims 2-10 and 13-31 were rejected under 35 U.S.C. 103(a) as obvious over US Patent 5,802,226 A (Dischert et al.) in view of US Patent 6,526,099 B1 (Christopolous et al.). Claims 11-12 and 32 were rejected under 35 U.S.C. 103(a) as obvious over Dischert et al. in view of Christopolous et al., and further in view of US Patent 5,447,276 A (Oguro). Claim 12 was objected to on informalities.

Response to Amendment

3. Applicant's amendments to claims 8 and 12 have been fully considered. The objection of claim 12 as not showing its dependency has been withdrawn. The examiner also thanks applicant for correcting a similar error in claim 8 that was overlooked in the previous Office action.

Response to Arguments

4. Applicant has itemized the arguments traversing the rejections of claims 2-12 and 13-32 under 35 U.S.C. 103(a). These statements will be assessed in turn.

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A: Claim 2

Applicant's characterization of claim 2 is correct.

B: The Cited *Dischert* Reference

Applicant's assessment of *Dischert* is correct, in containing two embodiments.

B.I: First Embodiment

Applicant is correct in the assessment of the first embodiment of *Dischert*, as shown in figure 3, as not directed to mixing video signals in a transform domain or compressed domain. The reliance on this embodiment has been completely disclaimed in the prior Office action (pg. 4).

B.II: Second Embodiment

Applicant is correct in the assessment of the second embodiment of *Dischert*, as shown in figures 4-6, as mixing video signals after transforming the signals into a second domain such as the spatial frequency domain.

C: Rejection of claim 2

Applicant's analysis of the citation of *Dischert* as applied to the present invention is correct. *Dischert* discloses the limitations of editing video, obtaining video data from a bitstream, scaling the video data, and modifying transform-domain video, but not the

claimed limitation of operating on residual data, of which *Christopolous* was relied on as disclosing.

C.I: Spatial Frequency Domain

As mentioned above, all reliance on the figure 3 embodiment of Dischert is disclaimed. See 20 December 2007 Office action: "...the rejection of the independent claims could be made solely from the figures 4-6 embodiment". Applicant is correct in stating that the "spatial frequency domain" of Dischert is considered a "transform domain" in the present invention, as conversion to the spatial frequency domain is done by a "discrete cosine **transform** (DCT) circuit" (column 5: lines 48-52). It is also noted that the transform in Dischert is not necessarily limited to the discrete cosine transform (column 5: lines 52-53).

C.II: Video Data

As stated in the previous Office action, Dischert et al. illustrates obtaining video data from a video stream, as in a live input (figure 4), or as a reproduction from a recording medium (figure 5).

C.III: Scaling Video Data

As stated in the previous Office action, Dischert et al. discloses scaling video data to produce an effect by mixing together two sets of video data in a DCT transform domain, as illustrated in figure 8. While in Dischert et al., sources of data to be mixed

may be diverse devices such as a shuffler or an ECC decoder, it is respectfully submitted that the input source of video data into a mixer is irrelevant to the operability of the mixer itself. See *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), "Combining the teachings of references does not involve an ability to combine their specific structures".

C.IV: Residual Data

Applicant is correct in stating that Christopolous et al. was relied on to disclose processing of residual data, not found in Dischert et al. However, it is respectfully submitted that applicant is incorrect in stating that re-arranging error data of Christopolous et al. in the shuffler of Dischert et al. is not possible.

Dischert et al. states, "The output video signal...is provided to the shuffler 408 which also re-arranges portions of the digital video signal" (column 4: lines 47-49). The "portions" of a video signal are not necessarily frames themselves. If shuffling is performed on an intra-frame basis, rather than an inter-frame basis, the shuffling would not affect frame dependencies in residual-coded data.

US Patent 6,178,289 B1 (Jang) teaches a video shuffling apparatus in a VCR, and appears to be representative of the "shuffler" such as shuffler 408 of Dischert et al. In both the prior art shuffler embodiment and the novel embodiment described in Jang, shuffling is performed on a per-frame basis (column 1: line 12; column 2: line 45), with the arrangement of blocks within a frame being shuffled in a known pattern, not the frames themselves. Therefore, it is respectfully submitted that the shuffling operation of

Dischert et al. would not effect a further operation of reconstructing a frame based on a previous frame, since the "shuffling" is ordinarily understood in the art to mean an intraframe operation.

D: *Dischert*, in View of *Christopolous*, Fails to Render Claim 2 Obvious

It is acknowledged that in making a determination of obviousness based on a combination of references, it would be improper for the combination unsatisfactory for its intended purpose (MPEP 2143.01(V)) or to change the principle of operation of the reference (MPEP 2143.01 (VI)). While there is disagreement between Applicant and examiner in the "intended purpose" of Dischert et al., with Applicant stating that Dischert et al. is primarily concerned with trick play modes (column 4: lines 41-42) and the examiner stating that Dischert et al. is primarily concerned with mixing video sources into one scene (column 7: lines 27-40), the demonstration in section C.IV that the mixer of Dischert et al. could be modified to perform on residual video data without rendering it inoperable or changing its principle of operation, this argument is moot.

Applicant additionally alleges that one having ordinary skill in the art would not be motivated to combine the Dischert et al. reference with the Christopolous et al. reference. While obviousness can be established based on a teaching, suggestion, or motivation to combine or modify the teachings of the prior art (*In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1229, 1335 (Fed. Cir. 2006)), this is not the only rationale required to establish obviousness. See *KSR International Co. v. Teleflex, Inc.*, 550 U.S. ____, 82 USPQ 1385, 1395-1397 (2007), MPEP 2143. In the present case, as established in the

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prior Office action, and discussed by Applicant in section C above, the prior art included each element claimed, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference. Additionally, as shown in sections C.III and C.IV, one having ordinary skill in the art could have combined the elements as claimed by the known methods, with each element merely performing the same function as it does separately, while recognizing that the results of the combination would have yielded the predictable result of further improving a compression ratio of a coded video signal, due to exploitation of temporal similarities between pixels of neighboring frames (column 1: lines 22-49). See MPEP 2143(A). Therefore, the rejection of claim 2 as obvious based on a combination of Dischert et al. and Christopolous et al. is respectfully maintained.

E: *Dischert*, in View of *Christopolous*, Fails to Render Claims 4, 13, 18, and 27 Obvious

Applicant has made no additional statements regarding the remaining independent claims, except as being co-extensive in scope with allegedly allowable claim 2.

F: Dependent Claims 3, 5-10, 14-17, 19-26, and 28-31

Applicant has made no additional statements regarding the dependent claims rejected over *Dischert* in view of *Christopolous*, except as dependent on allegedly allowable base claims.

G: Dependent Claims 11, 12, and 32

Applicant has made no additional statements regarding the dependent claims rejected over *Dischert* in view of *Christopolous* and *Oguro*, except as dependent on allegedly allowable base claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-10 and 13-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,802,226 A (Dischert et al.) in view of US Patent 6,526,099 B1 (Christopoulos et al). Dischert et al. teaches a video editor that operates on frequency-domain video (abstract). Regarding the obtaining data from a video bitstream in claims 2, 4, 13, and 18, figure 4 shows video streams inputted into analog/digital interface 402 and 404, and figure 5 shows video streams inputted into digital VCR heads 418 and 526 from the helical track of a digital video cassette. Regarding the modification of video data with additional data in claims 13, 18, and 27, Dischert et al. modifies video data by producing a fade effect from one video clip to another. Then, one scene of the video may serve as primary video data, and a second scene of the video may serve editing data. Regarding the "scaling" of video data in claims 2 and 4, figure 10A shows a mixer with first multiplier 104 that multiplies a first

video stream by coefficient K and second multiplier 102 that multiplies a second video stream by coefficient J (column 6, line 65 – column 7, line 4). Regarding the modification of transform-domain video in claims 2, 5-7, 13, 18, and 27, figure 8 shows video data processed through DCT 60 before being input into mixer 80. Regarding the compressed bitstream in claims 4, 14, and 19, figure 6 shows video data processed through run-encoder 64 and variable-length encoder 66, and regarding the quantized data in claims 6, 7, and 17, figure 6 shows video data processed through quantizer 62. Regarding the coded data in claim 7, Dischert et al. discloses that the video data is encoded with an error correction code (ECC) encoder (column 4, lines 55-57).

Regarding the fade to a color in claims 8 and 31 and the fade to black in claim 9, Dischert et al. discloses that video data may be faded to black as part of a transition sequence (column 7, lines 5-9). Regarding the addition of editing data to a bitstream in claims 13, 18, and 27, figure 10A of Dischert et al. shows a first video bitstream input through terminal 100 and a second video bitstream input through terminal 102 and added by adder 105. Regarding the inverse quantization in claims 14 and 19, figure 7 shows decoder 510 with inverse DCT 76. Regarding the combination of editing data to transform coefficients in claims 15 and 20, mixer 80 takes as input a series of frequency coefficients (column 7, lines 14-16). Regarding the secondary editing in claims 16 and 21, figure 10A shows a two-step mixer that multiplies video signals by a coefficient and then adds them (column 7, lines 1-12).

Regarding the storage medium in claim 25, figure 4 is directed to the recording operation of a digital video cassette recorder, with a modified bitstream recorded by

record head 418 onto the helical track of the cassette. Regarding the decoder in claim 24, figure 5 shows video data processed through decoder 510 before output. The label of "Audio" output from D/A converter 504 should be video (column 5, lines 31-38). Regarding the multiplication operation of claims 28 and 30, figure 10A shows a mixer with first multiplier 104 that multiplies a first video stream by coefficient K and second multiplier 102 that multiplies a second video stream by coefficient J (column 6, line 65 – column 7, line 4), and regarding the addition operation of claims 29 and 30, adder 105 adds the signals edited by the two multipliers.

Although Dischert et al. specifies ECC-encoded video data, Dischert et al. is silent on residual video data or error video data. Christopoulos et al. teaches a transcoder that operates on spatial domain or frequency domain (abstract). Regarding the residual data in claims 2, 3, 5-7, 13, 18, and 27-30, Christopoulos et al. operates on video that has been coded with predictive coding. In predictive coding, instead of transmitting every pixel value, instead only the variation between pixels is transmitted (column 1, lines 40-49). Regarding the error data in claims 3, 5, 13, and 18, this value is a prediction error from the assumption that pixel values are related in a certain way. Regarding the receiver in claim 23 and the transmitter in claim 26, Christopoulos et al. incorporates a receiver into the transcoder (column 9, lines 11-13, 19-35), and outputting an encoded video stream via a transmitter (column 2, lines 10-17). Regarding the software code that provides editing data in claim 27, the transcoder of Christopoulos et al. operates by performing editing operations on a video stream, such as introducing DCT values or motion vectors for an image with a new resolution, and

may be implemented in hardware or in software (e.g. column 8, lines 31-32; column 8, lines 66-67).

Dischert et al. discloses the claimed invention except for modifying residual error video data. Christopoulos et al. teaches that it was known to perform functions on predictive-coded video data. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fade effect device of Dischert et al. to operate on predictive-coded video data as taught by Christopoulos et al., since Christopoulos et al. states in column 1: lines 15-31, that such a modification would improve the compression ratio of a coded video signal.

Regarding the fade to white in claim 10, Dischert et al. only teaches a fade to black. However, it would have been a matter of obvious design choice to one having ordinary skill in the art to fade to any desired color, since the applicant has not disclosed that fading to any arbitrary color, including white, solves any stated problem or is for any particular purpose, and it appears the invention would perform equally well with fading to white.

Regarding the electronic camera of claim 22, the examiner takes Official Notice that video cameras were well-known at the time of the invention as a source for providing video data, such as to analog/digital interface 402 and 404 of Dischert et al.

7. Claims 11-12 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dischert et al. in view of Christopoulos et al. as applied to claims 1 and 27 above,

and further in view of US Patent 5,477,276A (Oguro). Although Dischert et al. teaches a video editor that performs basic operations such as a dissolve, a cross-fade, and a fade to black on frequency-domain data, it does not teach advanced editing effects. Oguro teaches a DSP apparatus that performs advanced fading effects. Regarding the fade from one color to another in claims 11 and 32, Oguro can fade in or fade out to any arbitrary color (column 11, lines 22-27; lines 46-51). Regarding the fade to monochrome in claim 12, the fade system of Oguro may operate only on Y (luminance) values and not process C (chrominance) values, thus performing only black-and-white fade operations (column 11, lines 6-21).

Dischert et al. in combination with Christopoulos et al. teach the claimed invention except for advanced fading techniques. Oguro teaches that it was known to perform fading techniques such as a fade to color or monochromatic fade. Therefore, it would have been obvious to one having ordinary skill of the art at the time the invention was made to apply the fading of Oguro to the editor of Dischert et al., since Oguro states in column 11, lines 29-51 that such a modification would simplify the circuitry needed in a fading device.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David N. Werner, whose telephone number is (571)272-9662. The examiner can normally be reached on MWF from 9:00-6:30, TR from 9:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri, can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. N. W./

Examiner, Art Unit 2621

/Andy S. Rao/

Primary Examiner, Art Unit 2621

April 30, 2008